

HAB National Liaison Report – September 2021

DOE- HQ – Staff Changes Mike Narker, former EM Communications Director is now Chief of Staff. In addition to supporting EM-1 and 2 he will provide assistance and advice to senior EM managers on everything from operations to long-range planning.

In the past Mike has served as EM's chief strategist and the head of Congressional Services. He is the former editor of the Exchange Monitor Publications.

Erik Olds is now acting director of communications and was named this month to serve as Senior Advisor to Todd Schrader (EM-2)

The Deputy Chief of Staff for EM is Allison Finelli. She has been in different EM jobs since June 2015. She was previously Deputy Director of the Energy Communities Alliance.

EM-1 Appointment – The Biden administration is starting to weigh potential nominees for a permanent Assistant Secretary for Environmental Management. Names that are rumored to be under discussion include Monica Regalbuto who held the position from 2015 to 2017. Nicole Nelson-Jean EM-3 has put her name forward. A third candidate is rumored to be Jim Werner who was in the Legacy Management program and is now with the Congressional research Service. He comes from Delaware.

Budget information – The House passed a fiscal 2022 Energy and Water budget on July 29th which includes DOE. The EM program was funded at \$7.76 billion. This is a \$171 million increase over 2021. The Senate committee bill passed on August 4th but not passed by the full Senate includes \$7.71 billion for EM.

In 2018 Congress directed DOE to evaluate the cost savings of treating some defense high-level waste based on its technical composition versus origin. The report indicated that treating some of Hanford's low activity tank waste by grouting could save \$73 to \$210 billion dollars and reduce the mission by at least a decade.

Around the EM Complex

WIPP – After recoding one of their busier months in more than a year with 41 shipments in July, shipments of TRU waste to WIPP declined in August. Of the 7 shipments, 4 came from Los Alamos, 2 from Idaho and one from Oak Ridge. WIPP has received 121 shipments this year. They have indicated that the slowdown in shipments is due to the pandemic and staffing issues at WIPP and generator sites. Prior to 2014 they were receiving 700 shipments annually.

AIKEN, S.C. – A third tank at the [Savannah River Site](#) (SRS) has been converted into a blend tank to support feeding waste to the [Salt Waste Processing Facility](#) (SWPF).

With completion of Tank 42 modifications, [EM](#) now has three tanks —21, 41, and 42 — in the site's H Tank Farm that will serve as blend tanks for [SWPF](#). The blend tanks provide space for preparing salt waste batches to be transferred to SWPF. Each tank can hold 1 million gallons and will prepare up to 3 million gallons of salt waste feed each year for processing at SWPF.

EM's liquid waste contractor, Savannah River Remediation (SRR), manages and operates the SRS tank farms and provides the salt batches to be transferred to SWPF, which are planned to reach a rate of 9 million gallons each year in the future. EM contractor Parsons designed and constructed SWPF and has operated the facility since it began processing radioactive salt waste in October 2020.

Prior to SWPF operations, one blend tank was required for processing through the previous interim salt processing facilities, [Actinide Removal Process \(ARP\) and Modular Caustic Side Solvent Extraction Unit](#) (ARP/MCU). On a smaller scale, ARP/MCU, operated by SRR, proved the technologies for removing the radioactive components of salt waste implemented in SWPF. The interim facilities processed 7.4 million gallons of salt waste. ARP/MCU operations were suspended in 2019 to prepare final SWPF tie-ins with the liquid waste facilities.

SRR completed a series of complex projects over many years to complete the tank modifications. Once a waste tank is ready to serve as an SWPF blend tank, liquid salt waste from other waste tanks is combined to meet the specific waste acceptance criteria for SWPF.

Savannah River Remediation has the critical responsibility to prepare salt feed for the Salt Waste Processing Facility, and the team has already achieved four salt batches — four million gallons of feed. Utilization of three blend tanks now enables SRR to achieve even higher rates of salt feed preparation.

AIKEN, S.C. – Scientists in the [EM program](#) are using a 62-acre plantation of pine trees and other natural resources to greatly limit radioactively contaminated groundwater from reaching waterways on the [Savannah River Site](#) (SRS).

The trees effectively act like a forest of tall hydraulic pumps, each drawing up irrigated water containing the contaminant tritium pumped from a nearby holding pond and harmlessly released into the atmosphere through photosynthesis. SRS produced tritium for use in the manufacture of nuclear weapons from the site's inception in the early 1950s until the end of the Cold War.

They learned a lot about harnessing nature to continually move towards passive, low-energy, and sustainable cleanup technology with minimal cost, and it's accomplished effectively without the generation of any waste.”

Since 2001, when the treatment began, approximately 190 million gallons of water — including nearly 7,000 curies of tritium that otherwise would have entered the Savannah River — has been harmlessly sprayed throughout thousands of loblolly pine trees.

Traditional remediation costs associated with this level of tritium removal would be close to \$220 million dollars over a 20-year period, their costs over that same span of time for the project are approximately \$12 million dollars.”

Sampling and testing demonstrate that nearly 90% of the tritium within the water applied to the pine plantation is evaporated, according to Christina Logan with the [Savannah River Ecology Laboratory](#). Logan collects samples and analyzes tritium levels in the irrigated soil.

However, test results validate the level of tritium found within the plants and animals affected by this process are so low as to be insignificant. Optimal water levels are being maintained in the pond while the evaporated tritium becomes virtually immeasurable beyond the irrigated section of forest, much less at the site boundary.”



At EM's Savannah River Site, U.S. Forest Service employees Secunda Hughes, left, a civil engineering technician, and Andrew Thompson, a forester, inspect irrigation piping and sprinkler heads, part of a 62-acre pine plantation used to safely disperse tritium into the atmosphere and away from local waterways.

PADUCAH, Ky. – Since the inception of the [EM program](#) in 1989, the [Paducah Site](#) has made notable achievements in groundwater cleanup, waste removal, and other work advancing its environmental cleanup mission following more than 60 years of uranium enrichment operations and support activities.

Since 1989, the site has treated 4.6 billion gallons of groundwater, removed over 8,000 gallons of trichloroethylene from groundwater and soils, disposed 7.8 million cubic feet of waste, removed 66 million pounds of scrap metal from storage yards, and converted over 52,500 metric tons of depleted uranium hexafluoride into a more stable form for potential reuse or disposal.

When operational, the site required infrastructure similar to that of a small city, with its own water treatment plant, fire department, security force, post office, medical facility, and sewage treatment plant. Since the plant ceased uranium enrichment, the needs at the site have changed.

Paducah previously maintained four electrical switchyards, supporting up to 3,000 megawatts of power per hour. This is enough energy to power a city as large as Nashville. Currently, the site's cleanup mission only uses about 12 megawatts per hour.

The reduced need for electricity prompted the construction of a new electrical substation and power distribution system, operated by the Tennessee Valley Authority. The substation now carries the power load for the entire site. This change will result in significant cost and energy savings in the coming years.

Water usage at the site has also changed since a majority of the site's water was used as a coolant for the uranium enrichment process. Today, the site requires approximately 1.7 to 2.5 million gallons

per day. When the plant was supporting the nation's power needs, water usage could reach as high as 30 million gallons per day. Steps to replace two raw water pumps with ones that will operate using about 50% less power, resulting in additional energy cost savings, is currently underway.

The advancements made in cleanup there lay the groundwork for future economic development in the region.

OAK RIDGE, Tenn. – [EM](#) is preparing the next wave of buildings for demolition at the [Y-12 National Security Complex](#) as part of a new chapter of cleanup in [Oak Ridge](#).

Crews are deactivating three contaminated facilities at Y-12 after transitioning them to a “cold and dark” status in which all potential hazardous energy sources are isolated — a crucial step before full-scale deactivation.

Workers are addressing vacant 1940s-era buildings that do not support current-day Y-12 missions. EM and its contractor UCOR are focusing their efforts on Alpha-2, the Old Steam Plant, and the Old Criticality Experiment Laboratory. The latter is the only building of the three that was not built as part of the Manhattan Project.

UCOR is working simultaneously in all three buildings. Some team members isolated utilities and equipment while others performed early deactivation tasks such as abating asbestos and removing waste. Oak Ridge's highly experienced workforce has made it possible to conduct all of this work in tandem.

“These crews were part of the team that completed the [first-in-the-world removal](#) of a gaseous diffusion complex last year, and they also completed demolition prep for the [Biology Complex](#) at Y-12,” UCOR Oak Ridge Reservation Environmental Cleanup Manager Dan Macias said. “The skills and training these workers bring to each project allow them to successfully complete our work safely and efficiently.”

More than 50% of the facilities throughout the [National Nuclear Security Administration](#) complex, which includes Y-12, are more than 40 years old, and 30% of them were built in the Manhattan Project age. EM's work in Oak Ridge is beginning to remove this deteriorating infrastructure to enable modernization and provide land for national security missions.

The massive cleanup at Y-12 is happening simultaneously with other cleanup projects underway at ORNL, where crews are addressing 16 inactive research reactor and isotope facilities.

LAS VEGAS – The [EM Nevada Program](#) has initiated characterization and hazard reduction activities to prepare for upcoming demolition and closure work at two large, unique, and complex legacy nuclear facilities on the [Nevada National Security Site](#) (NNSS).

The facilities are the Engine Maintenance, Assembly, and Disassembly (EMAD) and Test Cell C (TCC) complexes, which have ties to historical nuclear propulsion rocket development and testing programs at the NNSS.

Working with NNSS management and operations contractor Mission Support and Test Services, the EM Nevada Program and Navarro recently used unmanned drones to perform aerial observations and inspections. Kordt Engineering Group, an independent consultant, also conducted a structural analysis to ensure the cooling tower on the roof is stable and the interior of the facility is safe for access and entry by personnel.

Constructed in 1968 at a cost of more than \$50 million, EMAD is a four-story building with 100,000 square feet of floor space that includes what was once the largest hot cell in the world

EMAD and TCC were part of the now inactive Nuclear Rocket Development Station (NRDS). The NRDS supported the development and testing of nuclear rocket engines from 1957 until 1973. President John F. Kennedy toured the site in March 1963.